

MANUFACTURING EXTENSION PARTNERSHIP

Success Stories from the Field

Western Extrusions Corp.

Texas Manufacturing Assistance Center

Joint Assessment at Western Extrusions Corporation Cuts Energy and Operating Costs

Client Profile:

Western Extrusions Corporation, located in Carrollton, Texas produces high-quality aluminum extrusions for a variety of markets including commercial, residential, transportation and consumer durables. Logs and billets of aluminum are extruded into many complex designs, heat treated as necessary, milled to customer specifications, and then either anodized, painted, or fabricated in other ways. Following packaging, the finished products are sent to the plant's customers. Founded in 1979, the company employs 488 people.

Situation:

In 2008 a joint proposal by personnel of the Industrial Assessment Center (IAC) at Texas A&M University and the Texas Manufacturing Assistance Center (TMAC), a NIST MEP network affiliate, working through the State Energy Conservation Office (SECO), identified Texas manufacturing facilities for energy and process improvement assessments. The IAC program, funded by the U.S. Department of Energy, provides university-associated no-cost energy assessment services. This project offered a unique opportunity for TMAC and the IAC program to integrate their respective programs for the benefit of industry and to foster DOE/MEP cooperation. Western Extrusions was selected as one of three Texas plants for the pilot project.

Solution:

The assessment approach consisted of a team of six students, the IAC director and assistant director as well as TMAC staff. After visiting with various department plant managers and a facility tour, the team determined a number of potential conservation measures. Data was collected in order to quantify the recommendations. TMAC staff and students also worked together to quantify a major recommendation on improvements to the layout of the production area and the product manufacturing flow. A total of ten recommendations were provided in a report to Western Extrusions. Seven reduce electrical energy usage and three target the natural gas usage of the plant with payback expected within one year. Some of the IAC recommendations included steam trap repair, air leak repair, power factor correction, use of air nozzles, and boiler insulation.

TMAC worked with Western Extrusions on the recommendation to streamline plant operations. Previously their customer orders were sent directly to the Extrusion Department. The company was using a 'push' system where orders are filled regardless of downstream capacity levels, creating a large inventory backlog in the downstream processes. TMAC's project implementation required them to quantify the capacities at the downstream processes by looking at their product mix, process cycle times, layouts and current inventory backlog. The Fabrication Department set a goal to reduce inventory from 40.9 days to 2 days. TMAC and a cross-functional team of 8 plant personnel determined that implementing 'Lean' manufacturing techniques would provide the greatest impact. As a result of TMAC's assistance, Fabrication currently 'pulls' production from a strategic buffer replenished by the Extrusion Department at an appropriate level. This balances production more in line

MANUFACTURING EXTENSION PARTNERSHIP

Success Stories from the Field

with actual customer orders.

Results:

- * Realized \$195,000 in annual energy cost savings.
- * Return on \$191,000 investment in less than one year.
- * Reduced lead time by 50 percent.
- * Reduced raw inventory by 10 percent.
- * Reduced floor space by 20 percent.

Testimonial:

"The opportunity to have dual assessments by both the Industrial Assessment Center and TMAC provided Western Extrusions with suggestions as well as prescriptive solutions. Having access to these resources impacted our bottom-line in a big way."

Victor Avila, Quality Manager